

## Deep-Sea Spiny Lobster Resource

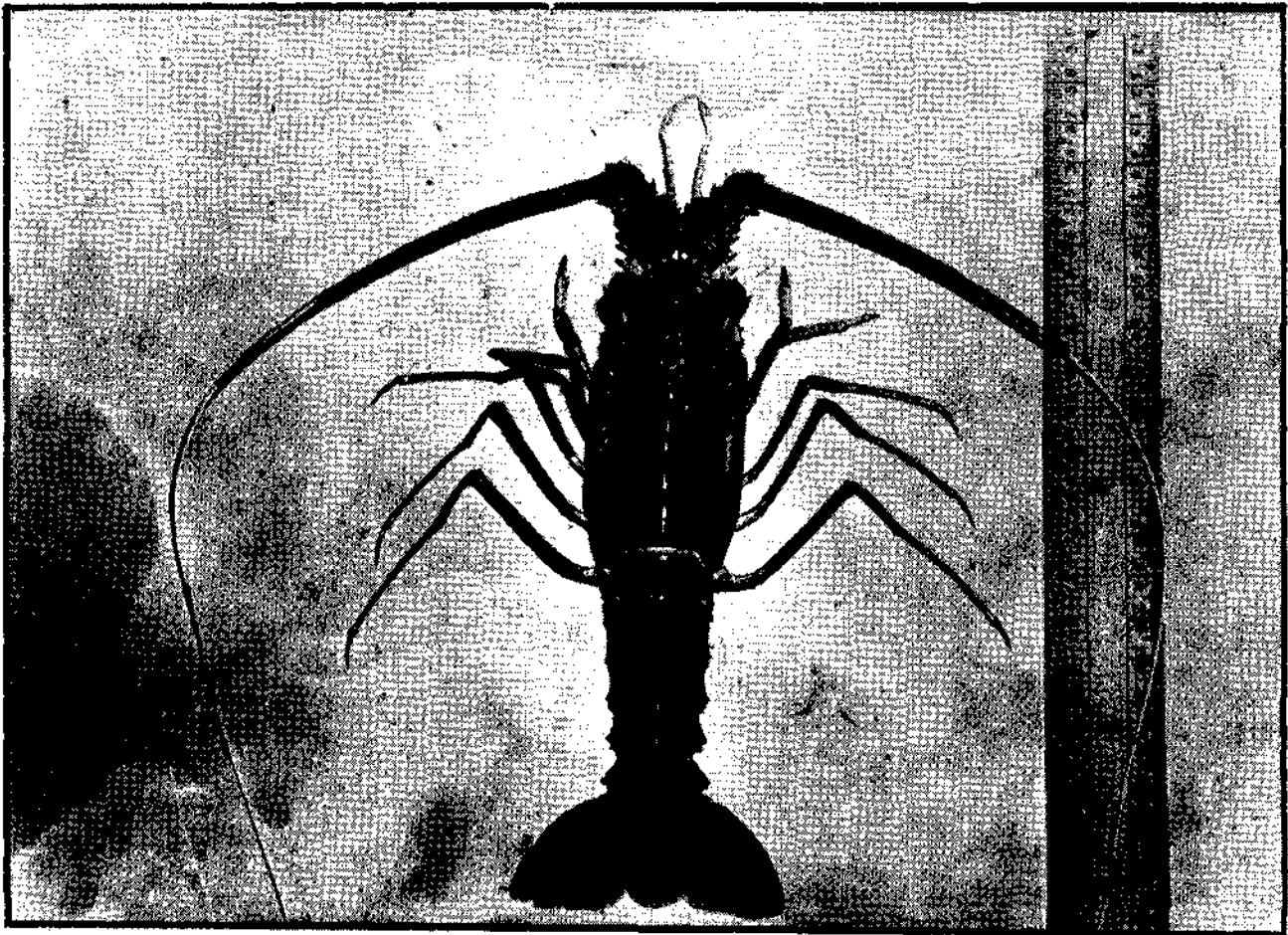
*Lobsters are very valuable commodity for export. It is likely that the fishing effort expended on this new resource may shoot up very soon. This may lead to overfishing and depletion of the lobster population. In a recent study of the available data on the deep-sea lobsters landed by the exploratory vessels, the CMFRI Scientists have pointed out the need for some regulatory measures for the management of this resource.*

Lobsters form an important item of the exportable marine living resources of our country. The edible part of the lobster called lobster tail worth Rs. 250 million is frozen and marketed to many foreign countries like Japan, U.S.A., Western Europe and Singapore. The demand for lobster tail is ever on the increase and the industry is always

looking for additional resources. The conventional lobster fishery of India is supported by a few species caught from the coastal waters, mainly from Maharashtra, Gujarat and Tamil Nadu. Existence of commercially exploitable stocks of lobsters in the deeper waters was not known until the recent remarkable discovery of the deep-sea spiny lob-

ster *Puerulus sewelli* in large concentrations in certain areas of the southwest and southeast coasts.

*P. sewelli* is found only in the Indian Ocean region where it has been reported from Off Somalia, Gulf of Aden, Pakistan, Indian waters and the Andaman Sea. It occurs in depths rang-



*Puerulus sewelli* Ramadan

ing from 70 to 1300 m, but the most preferred habitat is 150-300 m depth having hard bottom with coarse sand, mud or shells.

Though the occurrence of *P. sewelli* in Indian waters has been reported as early as the turn of this century it was in 1959 that the species was first recognised to have commercial significance following a pioneering survey conducted by the Kerala University along the edge of the continental shelf off Kerala coast. Subsequent exploratory surveys carried out by other government agencies like CMFRI, IFP, CIFNET, FSI etc in the deeper waters from different parts of the country have thrown more light on this new resource. These surveys have indicated productive areas and seasons of the lobster fishery and established economic viability of its commercial exploitation. The species occurs in a continuous area between 7 and 18°N latitudes on the west coast and between 7 and 14°N latitudes in the east coast. In the Andaman sea, the species occurs between 8 and 12°N latitudes. Within this distributional range the abundance of the lobster not only varies from region to region but also within the same region. The greatest population density with a catch rate of 200-300 kg/hr for the large exploratory vessels is recorded off Mandapam in the Gulf of Mannar at 180-360 m depth. The extent of productive area, however, is estimated to be only 725 km<sup>2</sup>. The next important areas yielding high catch returns are the Quilon bank, off Cape Comorin, Colachel, Alleppey, Cochin and Ponnani along the southwest coast. The extent of the

lobster ground between Ponnani and Quilon is estimated as 5000 km<sup>2</sup>, the most productive ground being the Quilon Bank covering an area of about 3300 km<sup>2</sup>. January to April is the peak period of abundance especially at 150-250 m depth.

Several estimates are reported regarding the potential resource of *P. sewelli* based on the results of exploratory surveys conducted since 1967. The sustainable yield is estimated at 8000 tonnes for the southwest coast and 1200 tonnes for the southeast coast.

An organised fishery for the deep-sea lobster was initiated in 1988 when some of the large commercial trawlers migrated from Visakhapatnam to the southwest coast and carried out deep-sea trawling between Cochin and Cape Comorin during the pre-monsoon period. In the same year from February to May, about 15 such vessels took part in this fishery and landed about 165 tonnes of the lobster. Most of these vessels have come from Visakhapatnam. Introduction of some more trawlers into the fishery is also expected during the next season.

Lobsters being a very valuable commodity for export there is likelihood of the fishing effort expended on this new resource shoot up very soon. This may lead to overfishing and depletion of the lobster population. In a recent study of the available data on the deep-sea lobsters landed by the exploratory vessels, the CMFRI scientists, Shri M. Kathirvel, Dr C. Suseelan and Dr P. V. Rao have pointed out the need for some regulatory measures

for the management of this resource. According to these experts, the abundance of the lobsters in the fishing grounds at 150-250 m depth coincides with the breeding season of the species. Significant quantity of berried lobsters are noticed in the catch during this period. Baby lobsters measuring below 100 mm are also caught in April-May and in October. The exploitation of large number of berried females and sub-adult population would adversely affect the resource. Although little is known about the duration of larval development, age and life span of the species, it is opined that the growth rate of the lobster would be slower as it inhabits relatively colder and less oxygenated waters unlike the coastal species which live in a more congenial environment for growth, reproduction and survival. It is therefore essential to keep a watch over the level of exploitation and behaviour of the stock in order to ensure a sustained fishery.

#### **Mass production of edible oyster seed**

A production of 1.98 lakh of edible oyster seed was achieved at the Shellfish Hatchery Laboratory at Tuticorin. The seeds were produced on oyster shells with a settlement of 9.5%

#### **Oyster spat supplied to Gujarat**

Two consignments consisting of 10,500 seed of the edible oyster *Crassostrea madrasensis* and 32,500 seed of pearl oyster *Pinctada fucata* were supplied during September to the Department of Fisheries, Gujarat for their mariculture programme.